Evidence-based narratives to reconcile teaching practices in academic disciplines with the scholarship of teaching and learning

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Abstract: Connecting discipline scholars with the scholarship of teaching and learning (SoTL) is accepted as an essential part of professional academic practice across the higher education sector irrespective of discipline. To connect meaningfully with teaching practice, SoTL needs to be translated by the discipline scholar and narratives related to the discipline context constructed. Previous work on disciplinary diversity suggests that there is a need to take a more grounded approach to the development of discipline-based educational scholarship. How SoTL is defined is critical to how SoTL is interpreted within discipline contexts and some of the numerous models and definitions of SoTL transcend disciplinary boundaries, but there is no single agreed definition of what is meant by SoTL. This paper reviews some of the models of scholarly teaching and raises some questions about how the links between pedagogical theory and discipline teaching practice are made by discipline scholars. We advocate that by providing discipline scholars with ways to map and then collectively view their practices within disciplines that this is likely to provide information essential for exploring SoTL in each discipline and reconciling SoTL with academic disciplines.

Keywords: scholarly practice, academic disciplines

I. Introduction.

Higher education academics need to identify how their disciplines inform their SoTL practices as the critical step in unpacking the complexity and value of teaching practice within discipline contexts. The goal of this essay is to examine how these discipline-specific dimensions of SoTL might provide better links between educational theory and university teaching practice by: a) briefly reviewing how SoTL is interpreted as part of the professional practice of academics in the USA, UK and Australia; b) proposing a means by which individuals can gather and analyse their evidence of discipline-specific SoTL activity; c) examining the collected discipline narratives, with the view to resolve discipline patterns including to clarify where the discipline boundaries may lie. We[3] argue that clearer connections between SoTL and professional development and practice would elevate the status of scholarship in teaching and learning within the higher education sector. Connecting discipline scholars with pedagogical research and scholarship in teaching and learning (SoTL) is accepted as an essential part of professional academic practice

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and has been adopted into a set of professional standards in the United Kingdom (Prosser, 2008) and elsewhere.

It is misleading, however, to speak of SoTL as a monolithic term. There are different models and definitions of SoTL and while many of these are generic and transcend disciplinary contexts, "[I]ndividual disciplines and academics need to give those generic descriptions and ways of thinking meaning in their own teaching and learning contexts and practices" (Prosser, 2008, p 3). Critical engagement with the scholarly literature is necessary for academics to gain a realistic view of where their work practices are situated within the scholarly domain. Because academic staff are first and foremost disciplinary experts, they are best placed to comment on which models and practice of scholarship describe the scholarship of learning and teaching within the context of their own disciplines. Clegg (2008, p 5) states that "the way SoTL has approached making connections between scholarship and practice has been through the glue of disciplinarity", which supports the view that the discipline expert is key to reconciling theory and practice.

II. Interpreting SoTL.

A. National trends.

Different national initiatives have interpreted the idea of the SoTL differently. In the USA, Boyer (1990) put forward the idea of scholarship as the link between research and teaching practice so that academics apply the same scholarly standards to their teaching as they would to research in their disciplines. Initiatives to promote the scholarship of teaching through organizations such as the Carnegie Foundation for the Advancement of Teaching draw on a pragmatic and experiential tradition with a long history in the US. This tradition, beginning with John Dewey in the early 20th century (Null, 2000) has resulted in a focus on documenting and making explicit the experience of teaching, with the evidence cited in publications describing university teaching practice usually being in the form of individual case studies or informal observations.

Kolb's (1984) experiential learning cycle, which is based upon empirical research on student learning in US universities, provides a conceptual model that can be applied to the scholarship of teaching. It describes an explicit development of theory that can be applied to the practice of individual academics as teachers within their disciplines. The academic reflects upon teaching experience, develops theories about what works best, and puts these theories into action to generate new experiences from which to learn. When individuals share the outcomes of this learning process with colleagues, through peer review, it builds scholarly knowledge about teaching practice. This interpretation of the scholarship of teaching relies upon the peer review process to measure the quality of the scholarship and the teaching practice.

The strategy in the UK of promoting scholarship of teaching mainly through acknowledging and rewarding individual lecturers who evaluate, reflect upon and publish papers about their teaching has been questioned. This is because professional development for academics by introducing them to scholarly educational literature has had limited results. In both the UK and the USA, schemes to promote the scholarship of teaching have mainly benefited a minority of highly motivated and tenacious individuals, rather than the broad majority of university teachers. There is a lack of convincing evidence for wholesale cultural change resulting from such initiatives (Gosling, 2004; Huber, 2001; 2004). A summative evaluation (HEFCE, 2005) of the outcomes from £181M spent 2000–2005 found that individual teaching

awards had limited impact on mainstream teaching quality and questioned their 'value for money'. This evaluation recommended more student-centred approaches. Subsequent funding was directed towards discipline-specific centres of excellence in teaching and learning (CETL). Formative evaluation of CETL identifies pedagogic research that ranges from informal individual and practice-based narratives to formal research of the type that meets established disciplinary research standards, but notes that most examples are in the former category and there are few in the latter (Saunders et al., 2008).

In Australia, there has been support for professional study programs to connect discipline academics with the scholarly literature of learning; yet, the UK experience has shown that this approach has had limited effectiveness as a sole strategy. There has been the additional strategy in Australia of using survey instruments such as the Course Experience Questionnaire (Ramsden, 1991) and the Graduate Destination Survey in a sensible attempt to measure the quality of student learning outcomes (Australian Vice-Chancellors' Committee and Graduate Careers Council of Australia, 2001). However, these instruments do not measure the direct influence of academics' scholarly input upon these outcomes either in terms of discipline research or pedagogical research excellence. It is therefore not clear whether, and if so how, the institutional and individual academic practices initiated in response to national policies have improved student learning. Nor is it clear how the scholarly input to teaching can be evaluated. This lack of an evaluation strategy remains a concern and, regardless of national context, the question remains: how do we measure the success of investing in programs to improve engagement of discipline academics with SoTL?

B. Scholarly teaching practice.

Since 1990, there have been numerous attempts by higher education specialists (as distinct from disciplinary practitioners) to characterise and model levels of scholarly practice in teaching and learning informed by different national contexts. These models include a 3 by 3 matrix (Kreber and Cranton, 2000), two complementary 4 by 4 matrices (Trigwell, Martin, Benjamin and Prosser, 2000) and a model including student perspectives (Trigwell and Shale, 2004). A common thread is the focus on individual academics being responsible for providing the evidence for their scholarly practices.

Providing evidence of educational effectiveness, in a form that will be accepted by educational specialists, can be very difficult for academics in some disciplinary contexts. There are two aspects to this difficulty. One is that not only are the educational theories and research methods quite different from those used in some other disciplines, but the nature of what is considered valid evidence differs. The other is that different disciplines have different sets of tacit knowledge; Shulman (2005, p. 55) calls that which is left tactic the *deep structure* of signature pedagogies in professions and is the "set of assumptions about how best to impart a certain body of knowledge". What is valued, made explicit and articulated as academic knowledge in one discipline is left tacit in another (Toohey, 1999; Trowler and Cooper, 2002), which emphasises the importance of discipline perspectives in the SoTL dialogue.

By way of example, Borrego (2007a) notes the difficulties experienced by those engineering academics who wish to do educational research because it means engaging with a relatively alien domain and language, which requires unfamiliar research methods. Meaningful definitions of scholarly quality in university learning and teaching first requires different practices in their contexts – individual, disciplinary, departmental, institutional and national – to

be brought to the surface and articulated. Some disciplines have gone further in developing discipline-specific educational scholarship than others. Medical education, for example, has several well-regarded international journals that provide mainstream academic recognition for discipline-based educational research. Engineering is further behind (Borrego, 2007b). In our own university, support systems for research and evaluation of education are much better developed in Medicine than in Engineering. Even in preparing this paper we found that we had to reconcile different disciplinary views on what constitutes valid evidence in our respective research domains in order to assess what an "evidence-based narrative" of SoTL within the disciplines may look like. For example, in Law there is detailed attention to language and process. In this context narratives can have a particular validity in themselves as evidence of scholarship. In Engineering, narratives are just stories that need substantiation with measurable 'facts'. Much of the knowledge about the teaching process remains tacit and unacknowledged, so there are missing links in the story of how teaching affects learning. Where the educational research is better organised, as in Medicine, this is less of a problem, because there is more language and more factual evidence to link scholarly teaching practice with measures of student learning. We explore the notion of discipline differences further in Section III.

In 2001, Neuman made the statement that discussions and decision-making in teaching, including policy, seem to be made based on past personal experience and, at the same time, policy makers "seem competent to talk about teaching, but its complexity is rarely acknowledged" (2001, p. 135). Trigwell et al., (2000) and Lueddeke (2008) suggest that the discipline expert is key. Because academics are the critical link between learning and the discipline content, we extend 'scholarship' to the initiatives that academics have undertaken to improve student engagement within the disciplines (and in general). However, it is not always clear how the scholarly literature has been used to inform either teaching practice or the institutional processes and practices that support teaching. We assert that transparency is called for.

The various perspectives on scholarly teaching practice reviewed here raise some questions about whether SoTL is: a) a community of practice for enthusiastic teachers to support and encourage each other; b) a field of expertise led by specialist researchers in higher education who can advise university teachers across disciplines, and are the arbiters of SoTL quality and/or; c) a process for developing new epistemological frameworks for disciplinary learning and teaching. We suggest that that the third option needs more attention.

III. Discipline values and narratives.

Within discipline communities, there is the potential for teachers to share teaching knowledge informally, by telling each other stories about their experiences. However, it is a challenge for academic staff to articulate their narratives about teaching practice in a way that meets the scholarly standards expected in mainstream academic research, either in their own disciplines or as specialists in higher education. It is also difficult to reconcile individual contractual obligations with the higher education institution's legal obligations (Cowley, 2008), which is that one needs to be scholarly about teaching and research. The further challenge is to articulate such narratives beyond the discipline confines in a way that makes meaning to scholars from other disciplines. In order to resolve discipline values through SoTL narratives, we explore how research, teaching and professional development interact in the context of SoTL in a range of disciplinary contexts.

A. Research and teaching: discipline differences.

In discipline-based university departments there is no simple functional relationship between research and teaching. Jenkins (2004) failed to find convincing evidence for the link between research and teaching activities in the UK and Australia. However, it is within the discipline that decisions about both teaching and research are discussed and organised and where both are shaped by the same disciplinary values (Becher and Trowler, 2001). Each disciplinary teaching and learning regime (Trowler and Cooper, 2002) has different concepts of identity, tacit assumptions, codes of significance, rules and recurrent practices. This helps to explain why staff development schemes that do not connect with disciplines have largely failed to influence teaching practices.

Teaching practice is expected to focus on student learning, assessment, curriculum development and on ensuring alignment between curriculum components. Linking theory to practice is an essential next step. To achieve linkage of theory and practice Healey (2000) argues that it is easier to engage some disciplinary practitioners with the scholarly literature than others due to the intrinsic natures of those disciplines and Borrego (2007a) supports this stance. How academics view the constraints of their home-disciplines at interfacing with SoTL theory and practice to effect change is therefore worthy of further exploration.

There is value in exposing discipline narratives within the institutional narrative in order to reveal key patterns. The discipline narrative will be an amalgam of the individual narratives and will be infused with disciplinary values to a greater and lesser extent. If academics were able to document all of their teaching tasks and annotate them with the rationale for undertaking them, it would be possible to distinguish similar approaches taken by, those represented in by any given discipline. For example, Neuman (2001) used the 'hard', 'pure', 'soft', 'applied' discipline descriptors (Biglan, 1973) to map her work and asserts that each discipline uses the same sorts of teaching approaches but adapts them to their discipline. This is consistent with an analysis of individual academics' strategies for introducing and adapting information and communication technologies to teaching and learning (Russell, 2005), which showed patterns of difference between 'hard' and 'soft' disciplines.

B. Linking SoTL and professional development.

Academics feel the need to account for activities (Reid, 2002, p. 3) because the demands of the job and the higher education climate of accountability does not allow for anything less. The activities that are measured by the national governing bodies and that are linked to funding are the most usual activities and outcomes reported. However, the work that academics do beyond reportable metrics is complex, diverse and difficult to capture. Wiese et al. (2007) in the USA took on the challenge to capture the breadth of activities (including 'service') normally engaged in by staff so as to facilitate a more transparent career development process for academics in the health care discipline. They found 55 activities that could produce measures of academic 'work' falling into four domains: classroom teaching, clinic, academic support, and research. Their paper describes how they developed a systematic transparent process for describing and ranking academic work (basing this on the work of Boyer). They linked these activities to an e-application for career progression. Palmer College, where this work was carried out adopted the definition of scholarship: "[S]cholarship and creative activity are understood to be intellectual works the significance of which is validated by peers and which is communicated. The principle

of peer review and recognition becomes increasingly important as [the academic] progresses through the academic ranks. Scholarship emphasizes project-oriented behaviour that results in a measurable product or outcome (e.g., a publication, written report, manual, or protocol)" (Wiese et al., 2007, p 530).

Because teaching is approached in discipline-directed ways academics should be in a position to defend the approaches chosen to support learning in their disciplines. Just what such a justification would look like in each discipline remains unclear and what excellence of practice would look like remains unresolved. We lack frameworks to incorporate the voices of discipline academics and ways determine at least the degree to which discipline values are evident in our teaching and scholarly practices. This is at odds with our practice as researchers where peer review is first and foremost the means by which we determine the calibre of our work. More recently national frameworks have been imposed on the higher education sector (e.g. UK Research Assessment Exercise – UK RAE; Excellence in Research in Australia -ERA). Such frameworks have been useful in highlighting just how diverse the definition of "research" is defined by those with disciplines.

C. SoTL as a learning process.

If disciplinary values impact on approaches to teaching, then there are likely to be discipline differences in both the evidence to support successful teaching practice, and how SoTL is narrated. These narratives are likely to reveal how SoTL within the discipline supports student learning and may explain and justify how practice and theory are linked. By examining our collective discipline annotations we may be able to resolve whether SoTL within each discipline is different, and if so how. We suggest that the process of collecting evidence, reflection and narrative are part of a learning cycle within disciplines (Figure 1) that can be aligned to Kolb's work (1984).

D. Reconciling our teaching practices with SoTL.

Higher education academics need to identify and reconcile tacit disciplinary knowledge with their SoTL approach in order to unpack the complexity and value of their practices. Like Trigwell et al. (2000) and Weise et al. (2007) we consider that the first step needs to be practice-led. The benefit of this is that it allows individual academics to start from a familiar place, their discipline-base, rather than from less familiar theoretical standpoints which can be problematic for academics new to SoTL. By annotating activities with where they map on the scholarly landscape, an individual academic can gain a clearer perspective of their scholarly progress and reflect on their duel roles as discipline expert and SoTL practitioner.

Given the interest in the ways that discipline values impact on teaching practices, we argue that there is value in creating ways to view the collective activities and practices of those within and across disciplines. By creating this collective disciplinary view the influence of discipline on SoTL will be revealed and understood. More importantly, by examining how the values of their home-discipline are reconciled with SoTL, academics are able to understand the impacts of scholarly approaches to their teaching practices as a way of reviewing their home-disciplines.
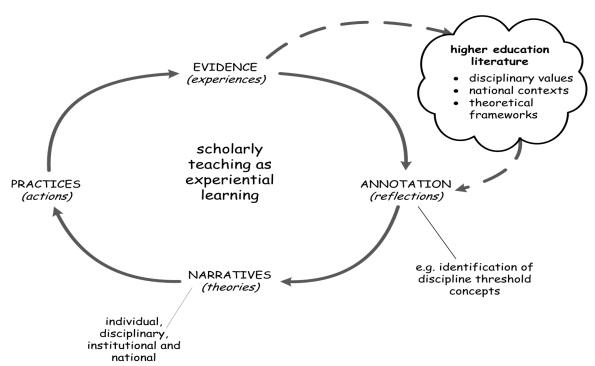
Figure 1. Scholarship of Teaching and Learning as an experiential learning cycle for individual academics, disciplinary department and institutional support systems (based on Kolb, 1984).

IV. Mapping SoTL theory and teaching practices.

The literature offers ways of bringing together theories and practices of SoTL (Kreber and Cranton, 2000; Trigwell et al., 2000). Kreber and Cranton devised a 3 by 3 matrix to bring together notions of knowledge (pedagogical, instructional, curriculum) and reflection (premise, process, content), which they say could be used by academic staff to indicate scholarly practices in teaching and learning.

Unlike the theory-led SoTL approach of Kreber and Cranton (2000), Trigwell et al., (2000), constructed their model of SoTL using the perceptions of twenty academic staff about their SoTL practices. The perceptions of these particular academics were categorised into five qualitatively different approaches to the scholarship of teaching. These were mapped within two different 4 by 4 matrices that linked staff perception with 'student-centred' and 'teacher-focused' strategies. This work offers a map of the "outcome space" of an academic's perceptions of learning and teaching practices. This can assist staff in identifying to what extent their work is student-centred. The multidimensional model defines SoTL as having four dimensions (informed, reflection, communication and conception). These dimensions describe the range of practice from informal to formal: through theorising, reflections and communications. The sample size used to generate the model is small. Despite this, the model provides a framework for academic staff to begin to gauge the merit of their own SoTL undertakings and accomplishments; the model does not, however, provide a way to identify the prevailing views within or between disciplines. Academics must consider what evidence is needed to substantiate their claim of being student-centred and scholarly.

A revised *Approaches to teaching inventory* has been published by Trigwell, Prosser and Ginns (2005). This inventory validates the earlier work of Trigwell and Prosser (2004) and is informed by the perceptions of nearly 2000 individuals. The usefulness of the inventory lies in providing a starting point for academic staff to describe, reflect and communicate their practices; academics are required to link their practices with supporting evidence. The alignment of our practices with models derived from the perceptions of academics in our own national context (Trigwell et al., 2008) seems to be a better fit than frameworks derived elsewhere (Nicholls, 2004). Regardless, linking extant theory and current practice can inform the ways forward for personal and career progression and the consensus is that critical reflection has an important part in the scholarly process.

Critical reflection on one's own practices can be viewed as an opportunity to identify the personal stumbling blocks, difficult transitions or major transformative moments in scholarly progress. The notion of transformative moments comes from the work of Meyer and Land (2003), who, with their *threshold concept framework*, have provided a useful way for academics to review their SoTL constraints as well as a lens through which to identify student learning obstacles and key disciplinary thresholds concepts. The theory of *threshold concepts* is being discussed internationally and is evolving within and across the disciplines. This offers a way for academics to identify challenges and to then describe what helped them through their own thresholds of learning in the SoTL domain. The whole scholarly practice and process could be better understood and further revealed by this process, but, more importantly, it would be delineated within the discipline itself.

Much can be learnt from highly aggregated collections of the information, the data, which we submit to our respective institutions. Goodyear (2005) analysed the evidence collected as part of the UK Research Assessment Exercise 2001 to answer the question "what does international excellence in educational research look like?" If we took a similar approach and if we generated a collective teaching inventory, we would be able to ascertain what excellence in teaching practice in each of the academic disciplines looks like.

V. Conclusions and recommendations.

Whether or not the engagement in SoTL by discipline academics can drive institutional change in the higher education sector is still open for discussion. Roxå, Olsson, and Mårtensson (2007) have asserted that the way to bring about change for the organisation is through academic staff engaging with SoTL and this paper suggests a way to improve such engagement through the capturing and examining collective SoTL accomplishments, practices and activities. This will prove valuable for viewing practice at the level of the individual, the discipline, organisational unit, the higher education sector at large.

The first step, and one that we have begun in our own university, the University of New South Wales, is to begin collecting and organising evidence of all scholarly activity within each discipline, formal and informal, recognised and unrecognised. The usefulness of this lies in enabling to individual staff to more easily view and reflect on personal patterns, and more practically will be useful for gaining individual recognition for sustained SoTL practice (e.g., career progression, learning and teaching awards). Discipline academics are likely to benefit from viewing successful SoTL practices contextualised in their discipline. Educational experts and academic developers will benefit from having an institutional inventory of expertise in SoTL and a means for improving the visibility of all SoTL practices and communities of practice. The institution will benefit from having the departmental and institutional SoTL track records

captured, archived and fixed in the corporate history and at a highly aggregated level, discipline teaching practices may be resolved.

References

Australian Vice-Chancellors' Committee and Graduate Careers Council of Australia. (2001). Code of practice on the public disclosure of data from the Graduate Careers Council of Australia's graduate destination survey, Course Experience Questionnaire and postgraduate research experience questionnaire (Canberra, Australian Vice-Chancellor's Committee). Retrieved March 30, 2010 from http://www.universitiesaustralia.edu.au/archive/policies/statistics_survey_management/avcc_gcc a_surveys_code_practice/gdsceqcp.htm

Becher, T. and Trowler, P.R. (2001). Academic Tribes and Territories (2nd ed.). Buckingham, UK: Society for Research into Higher Education and Open University Press.

Biglan, A. (1973). Relationships between subject matter characteristics and the structure and output of university departments. *Journal of Applied Psychology*, *57* (3), 204-213.

Borrego, M. (2007a). Conceptual Difficulties Experienced by Trained Engineers Learning Educational Research Methods. *Journal of Engineering Education (Washington, D.C.)*, *96* (2), 91-102.

Borrego, M. (2007b). Development of Engineering Education as a Rigorous Discipline: A Study of the Publication Patterns of Four Coalitions. *Journal of Engineering Education (Washington, D.C.), 96* (1), 5-18.

Boyer, E.L. (1990). Chapter 2: Enlarging the perspective. In Boyer, E.L. (Ed.) *Scholarship reconsidered: priorities of the professoriate.* The Carnegie Foundation for the Advancement of Teaching.

Carnegie Academy for the Scholarship of Teaching and Learning (CASTL), (1988). Retrieved March 20, 2010, from http://www.carnegiefoundation.org/scholarship-teaching-learning.

Cowley, J. (2008). Teaching - intensive appointments in law schools. Is this the way to recognise and value excellence in teaching? *Australasian Law Teachers Association conference. James Cook University, Cairns, July 6th-9th, 2008*. Retrieved October 21, 2008, from http://law.bepress.com/unswwps/flrps08/art55

Clegg, S. (2008). The struggle for connections. *International Society for the Scholarship of Teaching and Learning*. Edmonton, Canada October 16 – 19, 2008. Retrieved November 7, 2008, from http://www.leedsmet.ac.uk/carnegie/Keynote_address_ISSOTL_17_10_2008.pdf

Goodyear, P. (2006). What does international excellence in educational research look like?. In Jeffery, P.L. *AARE Education Research. Creative Dissent: Constructive Solutions*. Parramatta, 27 Nov - 1 Dec 2005. Retrieved November 5, 2009, from http://www.aare.edu.au/05pap/goo05176.pdf

Gosling, D. (2004). The impact of a national policy to enhance teaching quality and status, England and the United Kingdom. *Quality Assurance in Education, 12***,** 136.

Healey, M. (2000). Developing the scholarship of teaching in Higher Education: a discipline-based approach*. Higher Education Research and Development, 19* (2), 169-189.

HEFCE. (2005). Summative evaluation of the Teaching Quality Enhancement Fund (TQEF): a report to HEFCE by the Higher Education Consultancy Group and CHEMS Consulting. London, HEFCE.

Huber, M.T. (2001). Balancing acts: Designing careers around the scholarship of teaching. *Change; New Rochelle, 33* (4), 21.

Huber, M.T. (2004). Balancing Acts: The scholarship of teaching and learning in academic careers. Washington DC: American Association for Higher Education and the Carnegie Foundation for the Advancement of teaching.

Jenkins, A. (2004). A Guide to the Research Evidence on Teaching-Research Relations. York, *Higher Education Academy*. Retrieved March 30, 2010, from http://www.heacademy.ac.uk/resources/detail/resource_database/id383_guide_to_research_evidence_on_teaching_research_relations

Kolb, D. (1984). *Experiential Learning,* Englewood Cliffs, New Jersey, Prentice Hall.

Kreber, C. and Cranton, P.A. (2000). Exploring the Scholarship of Teaching. *The Journal of Higher Education, 71***,** 20.

Lueddeke, G. (2008). Reconciling research, teaching and scholarship in higher education: an examination of disciplinary variation, the curriculum and learning. *International Journal for the Scholarship of teaching and learning, 2* (1), 1-17.

Meyer, J. and Land, R. (2003). 'Threshold Concepts and Troublesome Knowledge (1): linkages to ways of thinking and practising within the disciplines', Improving Student Learning – Ten Years On, OCSLD, Oxford

Neumann, R. (2001). Disciplinary differences and university teaching*. Studies in Higher Education, 26* (2) 135-146. Retrieved 21 October, 2008, from http://dx.doi.org/10.1080/03075070120052071.

Nicholls, G. (2004). Scholarship in teaching as a core professional value: what does this mean to the academic? *Teaching in Higher Education*, *9* (1), 29-42.

Null, J.W. (2000). Schwab, Bagley, and Dewey: Concerns for the Theoretic and the Practical. *Educational Forum, 65* (1), 42-51.

Prosser M. (2008) The Scholarship of Teaching and Learning: What is it? A Personal View *International Journal for the Scholarship of Teaching and Learning* 2 (2) 1 - 4.

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The Course Experience Questionnaire. *Studies in Higher Education, 16* (2), 129-150.

Reid, A. (2002). Is there an 'ideal' approach for academic development? (Retrieved October 21st 2008) http://www.csd.uwa.edu.au/iced2002/publication/Anna_Reid.pdf.

Roxå, T., Olsson T. and Mårtensson K. (2007). Scholarship of Teaching and Learning as a strategy for institutional change. In *Enhancing Higher Education, Theory and Scholarship, Proceedings of the 30th HERDSA Annual Conference [CD-ROM]*, Adelaide, 8-11 July.

Russell, C. (2005). Disciplinary patterns in adoption of educational technologies. In J. Cook and D. Whitelock (Eds.), Exploring the frontiers of e-learning: Borders, outposts, and migration (pp. 64- 76). Proceedings of the ALT-C 2005 Conference, September 6 - 8, 2006, Manchester, England, UK. Retrieved March 30, 2010, from http://handle.unsw.edu.au/1959.4/39594.

Saunders, M., Machell, J., Williams S., Allaway, D., Spencer, A., Ashwin, P., Trowler, P., Fanghanel, J., Morgan, L. and McKee. A. (2008) *2005–2010 Centres of Excellence in Teaching and Learning Programme.* Formative evaluation report to HEFCE by CSET/IET. Lancaster: Lancaster University. Retrieved March 20, 2010 from: www.hefce.ac.uk/pubs/rdreports/2008/rd08_08/rd08_08.doc.

Shulman L.S. (2005). Signature pedagogies in the professions. *Daedalus, 134* (3), 52 - 59.

Toohey, S. (1999). Beliefs, Values and Ideologies in Course Design. In S. Toohey (Ed.), Designing Courses for Higher Education (paperback ed., pp. 44-69). Buckingham: Open University Press.

Trigwell, K., Martin, E., Benjamin, J. and Prosser, M. (2000). Scholarship of teaching: a model. *Higher Education Research and Development, 19,* 155-168.

Trigwell, K. and Prosser, M. (2004). Development and use of the *Approaches to teaching inventory*. *Educational Psychology Review, 16* (4), 409-424.

Trigwell, K., Prosser, M. and Ginns P. (2005). Phenomenographic pedagogy and revised Approaches to teaching inventory. *Higher Education Research and Development, 24* (4), 349-360.

Trigwell, K. and Shale, S. (2004). Student learning and the scholarship of university teaching. *Studies in Higher Education, 29,* 523-536.

Trowler, P. and Cooper, A. (2002). Teaching and Learning Regimes: implicit theories and recurrent practices in the enhancement of teaching and learning through educational development programmes. *Higher Education Research and Development, 21* (3), 221-240.

Wiese, G. C., Percuoco, R. E., Pickar, J. G., Duray, S. M., Faruqui, S.R., Schmiedel, G. O. and McLean, I. D. (2007). Development of an evidence-based application and rubric for evaluating applicants' qualification for promotion to professor. *Journal of Manipulative and Physiological Therapeutics, 30* (7), 527-535.